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**ABSTRACT**

A fluid status monitoring system for use in implantable cardiac stimulation or monitoring devices is provided for monitoring changes in thoracic fluid content. A fluid status monitor includes excitation pulse generating and control circuitry, and voltage and current measurement and control circuitry for performing a series of cardiac-gated, intra-thoracic impedance measurements. The cardiac-gated measurements are filtered or time-averaged to provide a fluid status impedance value, with respiratory noise removed. Based on comparative analysis of the fluid status impedance value, a clinically relevant trend in fluid status may be tentatively diagnosed and a fluid status response provided. Cross-check intra-thoracic impedance measurements performed using the same or a different excitation pathway and a different measurement pathway than the primary intra-thoracic impedance measurement configuration may be used to verify a tentative diagnosis.